CHEMICAL AND BIOLOGICAL ACTIVITY OF SELECTED VARIETIES OF SPRING CANOLA (Brassica napus) AND MUSTARD (Brassica juncea) AND INTRODUCTION OF A HIGH CONTENT OF FAVOURABLE FATTY ACIDS TO MUSTARD

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ABSTRACT

CHEMICAL AND BIOLOGICAL ACTIVITY OF SELECTED VARIETIES OF SPRING CANOLA (*Brassica napus*) AND MUSTARD (*Brassica juncea*) AND INTRODUCTION OF A HIGH CONTENT OF FAVOURABLE FATTY ACIDS TO MUSTARD

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The analysis of fatty acid profiles by gas chromatography performed on ester derivatives indicated that erucic acid content in selected spring canola (*B. napus*) varieties, Narendra, Oscar, Hyola, Karoo and Outback grown in Western Australia was very low compared to that of *B. juncea* (mustard). The nutritionally favourable oleic acid content was very high in canola varieties compared to that of mustard. The F₁ hybrids between *B. napus* and *B. juncea* showed a moderate amount of erucic acid content compared to that of *B. juncea* and low content of oleic acid than that of *B. napus* varieties.

The TLC-Bioassay method used for anti-fungal activity indicated that Oscar, and Karoo had anti-fungal properties against *Cladosporium* spp., *Aspergillus* spp. and *Mucor* spp.. The disc method for anti-bacterial activity test of different *B. napus* varieties and *B. juncea* indicated that Narendra, Oscar, Outback and Karoo were active against *Streptococcus* spp., *E. coli, Staphylococcus* spp. and *Pseudomonas* spp.. Mustard did not show anti-fungal or anti-bacterial activity. The results indicated that if the traits of anti-fungal and anti-bacterial properties of canola could be transferred to mustard, it would be possible to produce fungal and bacterial resistant mustard varieties of high nutrition value.